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ABSTRACT

This guide was developed as a cooperative initiative by UNESCO member countries to provide information about the process of development and adaptation of a flexible; competency-based curriculum, especially in vocational education. The guidebook outlines an exemplar process of education organized in 11 stages of design and development based on educational research and practice. The stages include the following: (1) identify need for curriculum; (2) identify client group and context; (3) prepare data; (4) conduct job analysis, using a process such as DACUM (Developing a Curriculum); (5) task analysis; (6) assessment planning; (7) content; (8) instructional planning; (9) preparation for implementation; (10) preparation of curriculum documents; and (11) testing and validating the curriculum. The guide also describes the process of adaptation of the curriculum and resources and problems in curriculum development. (Contains a glossary which defines 27 terms.) (KC)

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GUIDE BOOK FOR CURRICULUM DEVELOPMENT AND ADAPTATION

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GUIDE BOOK
FOR
CURRICULUM DEVELOPMENT
AND
ADAPTATION

SECTION A: INTRODUCTION

PURPOSE OF THIS GUIDE BOOK

The guide book has been developed as a cooperative initiative by UNESCO member countries to provide information about the process to be followed in the development and adaptation of curriculum.

This guide book outlines an exemplar process for curriculum development and is designed to provide assistance to all those involved with the development of vocational curriculum.

This guide book also provides advice on the process of curriculum adaptation to assist member countries who are involved with the adaptation of curriculum for use within a specific national context.

HOW TO USE THIS GUIDE BOOK

This guide book outlines stages in a process that represent an exemplar process for the development and adaptation of curriculum.

- The guide book can be worked through by reading and applying the stages and following the sequence presented.
- Any stage can be identified that relates to current curriculum initiatives, and analysed against current practice in light of the advice contained in the exemplar process.
- The exemplar process can be modified to suit the particular needs and requirements of a national context.
- The exemplar process can be used as the basis for discussion with a team that has been set up to work on curriculum development or adaptation.

TARGET AUDIENCE

This guide book has been developed to assist the following people who may be involved with curriculum development and adaptation:

- Curriculum experts
- Vocational teachers
- Industry representatives
- Administrators and managers
- Project managers

Parts, or all this guide book provide exemplar information for these people during the phases of curriculum development and adaptation.

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A DEFINITION OF CURRICULUM

It was agreed by the members of the Technical Working Group that the word curriculum, as used in this guide book, was defined as

a plan incorporating a structured series of intended learning outcomes and associated learning experiences, structured into a sequence and generally organised as a related series of units, modules or subjects.

STATEMENTS OF PRINCIPLE

The following principles were discussed by members of the technical working group and agreed to as underpinning the concepts and approaches in this guide book.

These principles relate to:

- competency based curriculum
- flexibility of curriculum
- relevance of the guide book to curriculum development and adaptation
- responsibilities for management of curriculum development and adaptation
- educational practice

Competency Based Curriculum

This guide book outlines a process for development of competency based curriculum, which is the recognised approach by member countries in the Asia-Pacific region of UNESCO, to curriculum development.

Competency based curriculum describes an approach to vocational training that focuses on the development of competency i the learner as the outcome/objective of the training. This is the approach that has been used in this guide book.

Competency based curriculum has a primary focus on what the learner can actually do and on the outcomes from the training. It details the knowledge, skills and attitudes as they relate to a specified level of competency.

Flexibility of Curriculum

The process of vocational curriculum development outlined in this guide book is based on the concept of flexibility. This means that curriculum written for one national context has enough flexibility for it to be adapted to the needs and context of another country. The process outlined in this guide book encourages the incorporation of flexibility into curriculum development so that curriculum can be adapted to meet various timing, loca-

tion, delivery, economic, industry and educational imperatives.

Relevance of the Guide Book

This guide book outlines an exemplar process of vocational curriculum development that has been agreed to by member countries represented on the Technical Working Group. The process is outlined here to assist all UNEVOC member countries through an exemplar approach to curriculum development.

In this guide book 11 stages of the design and development of vocational curriculum have been set down in an order agreed to by members of the Technical Working Group. This order of stages may be varied by a country when following this guide book, but it is strongly recommended by the Technical Working Group that each stage is included in any development process.

Responsibilities for Management of Curriculum Development & Adaptation

In order to achieve effective technical and vocational education the design, development and adaptation of curriculum requires careful management at each stage. This includes selection of reference material and allocation of resources including financial resources and appropriate personnel to ensure that each process can be successfully completed. Curriculum design, development and adaptation requires appropriately qualified and experienced personnel. Review of progress and evaluation of outcomes should occur at each stage, with trialling and validation of the completed curriculum a requirement for new, revised and adapted curricula.

Educational Practice

The development of curriculum and instructional materials is based on educational theory and research. Individual learners and their teachers are diverse, with different backgrounds, skills, and expectations. Curriculum must incorporate key competencies and be appropriate to learning needs and should be designed to encourage lifelong learning. As such, curriculum must serve the short-long term needs of learners. Instructional materials must be designed to help learner learn in appropriate stages through development of simple to complex skills, low factual recall to higher level intellectual skills, and through acquiring appropriate attitudes.

GLOSSARY OF TERMS

The glossary defines terms used in the guide Book.

Accreditation
refers to the recognition by an official authority that:

- the contents and standards of a course are appropriate to the credential that is received;

- the course and the methods adopted in delivering it fulfil the purposes for which it was introduced;

- the curriculum and assessment are based on national comop etency standards, where they exist.

Articulation
referes to the formal linkage between different levels or different fields of study, including enterprise-based and industry-based training. Articulation arrangements allow horizontal or vertical movement between programs or between education and employment.

Assessment
is the process of forming a judgement about whether an individual meets a specified competency standard. Continuous assessment refers to assessment after every learning out come. Summative assessment refers to integrated assessment at the end of the training program.

Competency
comprises the specification of the knowledge and skill and the application of that knowledge and skill, within an occupation or industry level, to the standard of performance required in employment.

Component
refers to a unit of learning.

DACUM
is Developing A Curriculum.

Database
is a collection of data or information.

Domain
refers to areas of learning specifically cognitive, psycho motor and affective areas.

Format
is the structure or pattern for writing component parts of the curriculum.

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Generic skills
refers to the broad competencies needed for participation in work, training and further education, and other social settings.

Higher education
refers to formal education offered mainly in universities and to a some extent in specialist tertiary colleges and institutions.

Industry standards
are national competency standards endorsed by a specific industry.

Industry restructuring
is aimed at increasing the efficiency of industries by altering their composition (in terms of the concentration of large or small producers) or their product specialisations.

Key competencies
refers to the broad competencies needed for participation in work, training and further education, and other social settings.

Learner
is the student participating in vocational training.

Learning outcome
is a statement describing the intended result of completing a unit of training.

Module
is a specific learning segment, complete in itself, which deals with one or a number of units of competency.

Objective
is a statement of outcome with general objectives stated in broad terms and specific objectives detailing particular outcomes.

Lifelong learning
is the view that learning is an ongoing process not restricted to training programs.

On-the-Job training
is undertaken at an ordinary workplace and uses actual jobs of commercial value for instruction and practice.

Learning Outcome
is a statement describing the intended result of completing a unit of training.

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Performance criteria
are evaluative statements which specify the required level of performance for a unit of competency.

Recognition of prior learning (RPL)
involves the determination on an individual basis of the competencies obtained by a learner through previous formal training, work experience and/or life experience and the consequent advanced standing to which the learner is enti tled in relation to a training course.

Skill
involves the application of the full range of cognitive and psychomotor functions, together with the appropriate attitudes, required to perform a work function.

Standard
is a statement in outcome terms of what is expected of an individual performing a particular occupational role.

Validation
refers to the outcome of trialling of the curriculum on a group of relevant learners.

Vertical Mobility
refers to opportunities for further or ongoing education in the same area of specialisation.

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This Technical Working Group Meeting was sponsored and established by UNESCO from Bangkok PROAP organised by Mr.M.A.Qureshi, Specialist in Technical and Vocational Education and hosted by Pandit Sunderlal Sharma Central Institute of Vocational Education, NCERT and the Project Director, Prof. Arun K.Mishra.

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SECTION B; DESIGN AND DEVELOPMENT

1. Identify Need For Curriculum

The purpose of Vocational Curriculum

The purpose of vocational curricula is to describe training programs which take into consideration the demands/needs of the industry/economic sector and the social and economic needs of the learners, and thereby reduces the mismatch between the supply of workers and the demand in the employment market. Further, the vocational curricula need to be responsive to the changing demands of the workplace. Most countries also believe that vocational curricula should provide alternative pathways for advancement in careers leading to gainful employment.

Rationale

The starting point for the development of vocational curriculum or its revision/renewal is identification/formulation of the rationale. Some examples of rationales could be :

- The growing opportunities in the service sector
- The desire to improve the skills of the existing workforce
- The training opportunities for groups of unemployed
- The demands arising out of industrial restructuring
- Training for knowledge based new and emerging technologies
- Meeting the training needs of disadvantaged groups on society.
- Training for retrainability, key competencies and generic skills.
- Findings and feedback derived from implementation of the existing curricula
- Projections of short and long term employment pattern for skilled workers.
- Seeking commonality of curricula in different national contexts.

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Objectives

The objectives for the curriculum development need to be clearly defined and stated at the beginning of the process. Objectives are general statements which describe the intended outcomes of the curriculum.

Some examples of objectives could be:

- Provide training for the growing tourism and hospitality industry in the various countries of the region
- Provide training for new and emerging technologies
- Provide training for the newly evolving structure of jobs, and work place requirements.
- Provide training for improving the existing work practices and productivity in industry, business and agriculture
- Provide training for self employment
- Provide training for entrepreneurship
- Provide training for improving the employability of disadvantaged groups.

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2. Identification of the Client Group and Context

Industry/Employers/Labour Market Users

The vocational curriculum is designed to meet the needs of industry, the employers and the labour market. It is therefore, necessary to identify specific groups of users for the curriculum being developed and arrange consultation with them. It is important that these groups be consulted, so that these groups own the curriculum, see it as meeting their needs and consider it to be labour market demand driven.

In many countries the initial approach for curriculum development/ revision is initiated by industry groups. However, in many other countries such a dialogue still needs to be encouraged and fostered.

In some countries, notably Australia and New Zealand, evolving industry standards are driving the curriculum development process and the training agenda. Curriculum in these countries is being developed to meet the industry standards. Strong Government support and commitment is the key factor in this process.

In the context of developing countries, institutions face the challenge of obtaining government support at the policy level and industry's cooperation for identifying standards and developing relevant curricula.

Consultation with employers, industry, teachers:

Effective consultation is an essential pre-requisite for the success of curriculum development. All parties need to be fully aware of the rationale and objectives of curriculum development and provide necessary inputs during its development.

Representatives of all parties need to be members of the working group so that they can participate in the process of curriculum development. Where no policies exist at a national level to establish consultation with industry, efforts should be made at the local level to involve industry in the curriculum development process and any involvement should be formally documented.

In particular teachers need to be aware of new curriculum initiatives so that they can identify strategies for teaching - learning processes and identify teacher training needs and resources.

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Learners

A wide range of learners benefit from new initiatives in vocational curriculum development. Curriculum developers need to identify the target learner groups for the proposed curriculum so that the needs of the learners can be taken into account early in the development process. Some needs of the learners to be considered are :

. the entry requirements
. the aptitude and preferred learning style
. the employment opportunities
. access to training
. successful role models
. attitude of society towards the training
. status of graduates
. cost effectiveness of the training
. multiskilling and opportunities for retraining

The curriculum developers must address themselves to the learners' needs in order to produce a successful and viable vocational curriculum.

Career Pathways

In the initial stages, the curriculum developers need to consider the options available to vocational learners for career opportunities and avenues available for higher education/vertical mobility. For example the vocational student after graduating may proceed to additional training, self/wage employment or a diploma/first degree program. Alternative pathways and articulation possibilities/opportunities are key elements of successful vocational curriculum. Recognition of prior learning as practised in some countries may provide an incentive for career pathways in vocational education.

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3. Preparation of Data

Successful vocational curriculum is based on valid statistical data, collected from a wide range of sources and analysed in line with the rationale and objectives of curriculum development. In some countries, there are mechanisms in place to provide the necessary data, back stopping and professional support for vocational education curricula. There is a need in many countries to establish an infrastructure to collect, analyse and disseminate the necessary research information to form the basis of vocational curriculum development. There is also the need for vocational curriculum developers to interact with their counterparts in other countries and compare data and outcomes. For this purpose, a regional data base with networking of UNEVOC centres is needed.

Research Work

Research work is an essential component of vocational curriculum development. Mechanisms for research in vocational education curriculum need to be established in many countries to assist the process of relevant and appropriate curriculum development. Another challenge for vocational curriculum developers is coordinating research data available through various organisations in different sectors. There is a need for setting up of research data banks in many countries and their linkage through the UNEVOC network.

Some examples of research areas include:

- graduate surveys
- analysis of employment market trends
- demographic data
- identifying emerging vocations

Job Description/ Needs Analysis

Data from job description and needs analysis processes is essential to underpin effective vocational curriculum development. For this purpose, there is a need for closer cooperation between vocational education and industry, business and agriculture as well as the service sector representatives. The curriculum developers should in fact, work from documents containing industry approved job descriptions and specifications from needs analysis processes.

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Some of the techniques that can be employed to provide this data may include:

- Job market surveys
- Workplace observation
- Interviews with workers at various levels, and teachers and students
- Responses from Questionnaires
- Written responses about training relevance from users
- Observations from planners and policy makers and society's representatives.
- Consultation of economic and social planning documents.

Demand for Curriculum

The demand for curriculum results from various factors:

- changing occupational requirements
- the number of trained workers required as a result of industry restructuring
- national economic imperatives

In developing and adapting curriculum, consideration should be given to the various demand factors so that a curriculum truely reflects the various imperatives for change. These imperatives could include an analysis of the cost-benefits of proceeding with the curriculum development, long term and short term benefits of the training to the society, and the transferability/portability of the skills as they apply to changing work contexts.

Feedback from existing curricula

The decisions on curriculum development/adaptation/revision need to be based on extensive feedback on current curricula from its various users. Feedback could be obtained about:

- relevance to the learners
- usefulness of the skills in the work context
- cost effectiveness of the curriculum
- difficulties in the management and implementation of curriculum
- employer's responsiveness to the curriculum
- teacher competencies and their preparation for the teaching-learning process.
- strategic appropriateness to societal needs
- whether or not the training is providing a national competetive edge/advantage.

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4. JOB ANALYSIS

There are a number of approaches to developing the curriculum. The approach supported by the Technical Working Group is known as the competency based approach. In the competency based approach it is necessary to analyse the job in order to identify the competencies that the learner will be required to demonstrate in the workplace on completion of the training program.

Competency relates closely to work that is performed in the work place by the worker on-the-job. A statement of competencies describes the complete process or task that the learner has to perform.

There are a number of methods for determining competencies. These include DACUM, CBC (Competency Based Curriculum-India), Job Analysis Process. An example of Dacum and CBC are appended.

The key feature from this stage of curriculum development is:

To identify the competencies that the learner should be able to perform in the workplace.

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5. TASK ANALYSIS

Task Analysis is the process of breaking down the competencies or tasks into different domains or components: cognitive (Knowledge), psychomotor (skills) and affective (attitudes).

Related skills such as social skills, written, oral and other communication skills and interpersonal skills should also be considered in the process of carrying out the analysis. Some countries include social skills in the identification of key competencies and some countries also identify recommended personality traits.

Each component derived through the task analysis should be measurable and observable in terms of learner behaviour expressed as learning outcomes. In order to achieve this, each learning outcome must start with a verb which describes the activity the learner is to perform, and be followed by what the activity relates to and any conditions that apply in the performance of that activity.

In summary the processes that are usually followed in breaking down the tasks into components are:

- To list the tasks in relation to each competency
- To design a format for presenting the break down of tasks into components
- To break each task into components of knowledge, skills and attitudes
- To identify social skills required for the tasks
- To state each component as measureable learning outcomes

On way of approaching the task analysis is to prioritise the tasks when they are identified, whilst another approach is to draw out the common tasks after the task analysis is complete.

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6. ASSESSMENT PLANNING

In a teaching learning situation assessment is the process of determining and verifying that changes have taken place in the behaviour of the learner as an outcome of the training program. In competency based curriculum this includes determing that the learners can demonstrate the competencies identified through the job analysis.

In order to carry out assessment in the appropriate manner it is also necessary to understand the broad objective of conducting both assessment for the purpose of giving feedback to learners and teachers and for verifying that competencies are achieved.

- to recognise any difficulties the learners may be experiencing with the learning process

- to assist the teacher to decide the most appropriate learning methods for the learner

- to assist the teacher to recognise any ambiguities in the curriculum and make adjustments accordingly

- to assist the teacher with evaluation of the effectiveness of instructional methods

- to certify the changes that have taken place in the behaviour of the learner and the achievement of the competencies.

Assessment must be appropriate to the competencies or tasks. Psychomotor skills should be assessed on the basis of the learners' practical performance of workplace related tasks and the cognitive domain through written and or oral examination. The affective domain can be assessed through observations using an appropriately designed rating scale or other suitable instrument.

Each learning outcome can be assessed separately or two or more learning outcomes can be integrated to involve the learner in one task. Effort should be made to assess each and every learning outcome. Assessment should be continuous and comprehensive, with due consideration given to the learners' ability to perform the identified tasks. Persons involved in delivering on-the-job training should be involved in the assessment of relevant outcomes.

While planning assessment, due consideration should be given to the level of both practical and theoretical components and the appropriateness or validity of test items, questions and any other assessment instruments.

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In order to prepare a balanced assessment plan it is advisable to prepare a table of assessment specifications. This indicates how each learning outcome is to be assessed and specifies the assessment tools to be prepared. An example of such a table of assessment specifications is appended.

In summary the stages to be undertaken in assessment are:

- to determine how each competency or learning outcome will be successfully demonstrated by the learner
- to determine appropriate assessment methodology
- to determine the appropriate duration and placement of each assessment
- to involve on-the-job collaborators where appropriate

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7. CONTENT

Selection of teaching content and materials is determined by the learning outcomes. Identification of content areas derived from the task analysis should support all domains (psychomotor, cognitive and affective) to be grouped into logical subject areas or modules. Appropriate duration should be given to each subject area depending on the time required for the learner to be competent and demonstrate achievement of the learning outcomes.

The usual processes that are required to be followed in arranging content include:

- to organise content into logical subject areas or modules
- to assign time to each subject area or module
- to assign a weightage to subject area or module where applicable in the national context.

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8. INSTRUCTIONAL PLANNING

Instructional planning is the process of preparation for the delivery of the subject areas or modules. Effort should be made to sequence topics logically, to determine the relationship between theory and practice, and to identify learning resources. The teacher needs to make all these preparations including detailed plans for each lesson and where appropriate job sheets for learning delivery.

In summary this stage includes:

- to sequence topics in a logical order
- to determine the relationship between theory and practice
- to identify learning resources
- to prepare lesson plans, job sheets etc.

Some countries do not include this detail in the written curriculum document.

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9. PREPARATION FOR IMPLEMENTATION

Curriculum implementation requires careful attention and detailed planning of the inputs for achieving desired educational outcomes.

The main inputs to be considered for implementation include:

- the curriculum document
- students
- teachers
- managers and administrators
- tools and equipment
- learning resources including text books and reference material
- buildings and infrastructure

This guide book does not include detailed recommendations on these implementation issues. Some countries do not include implementation as a part of the curriculum document.

An exhaustive list of all tools and equipment, raw material, glassware, chemicals, text books, reference material and any other materials needed to support learning should be prepared. (India for examples provides these details in curriculum documents). Buildings and infrastructure should be considered. If any section of the curriculum cannot be delivered it will be necessary to identify collaborating institutions, industry or organisations willing to be associated with the delivery of the curriculum. Similarly issues of teacher competence and availability are critical. It may be necessary to identify expert part time teachers or guest speakers willing to be associated with delivery of the curriculum.

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10. PREPARATION OF CURRICULUM DOCUMENTS

Different countries prepare curriculum documents in various formats and do not include all of the previously specified curriculum development stages in their curriculum documents. It is important to use a consistent format within a national context to enable consistency and flexibility of vocational education.

Several sample formats from different countries are appended.

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11. TRIALLING AND VALIDATION

Any curriculum development exercise cannot be taken to be complete unless it is subjected to a validation process. This involves a pilot trialling of the curriculum on a group of learners of the stage and background for which the curriculum has been developed. The sample size for trialling need not be very large but it should be as representative of the population as possible. The trialling should also include assessment of performance and the trial data should be available to the appropriate authority which would finally put the seal of approval on the curriculum document before wider implementation.

In some countries the formal approval or accreditation of curriculum is a stage before a training program can be implemented.

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SECTION C: ADAPTATION

1. Need for adaptation

Any curriculum that is developed by a group in the context of many countries or any particular country , would call for adaptation to suit the context and requirements of a particular country. This adaptation may be done keeping in view several parameters which will be covered in subsequent sections. The modifications in the curriculum would also be necessitated by periodic changes that take place in any country while the curriculum is under implementation.

International understanding

Curriculum adaptation would promote the process of international understanding. At present countries have their own distinct curricula which follow different formats, use different terminologies and practice different modalities of implementation. An exemplar curriculum developed centrally through a collective effort would favour and promote systematisation of terminologies and bring about uniformity of format to a great extent. It would also bring in a desirable commonality in curriculum development and implementation, and in years to come lead to globalization of technical and vocational education.

Curriculum development context

While adapting the curriculum, the national context will play a great determining role. This would include the cultural aspects, political systems, economic development, environmental factors, technological factors, employment patterns and such others. Each of such contextual parameters would have definite bearing on the national curricula justifying the need for adaptation. While doing this, the methodology of development, the content of curriculum and competencies specification in relation to existing industries would also have to be taken into consideration.

Examination of the document

In order to adapt the curriculum to the requirements of a given situation, the first step would be to have a close examination of the exemplar document by a properly-constituted group. This group should analyse various parameters of the curriculum, compare the curriculum with any existing curriculum in the country and bring out the differences between the two in terms of content, methodology and format. In the event that a particular country finds the given curriculum to be new in its national context, it can examine the exemplar from the point of view of its need and utility for the country concerned and take decisions accordingly.

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Terminology

Even though the language used in the curriculum could be say English, the terminologies used in the curriculum may have different connotations in different countries. If not understood clearly terminology will create problems at every stage of adaptation and implementation. The exemplar curriculum should give a definition of the terms used and similarly, the adapted curriculum should also bring out the differences in these terms in an explicit form.

Format

It has been observed that there are wide variations in format used in the countries of this region. Countries convey similar ideas through different means of presentation. It would be desirable to have as similar a format as possible for curriculum in different countries, but this may not be immediately possible. A conscious effort should be made to gradually move towards a common format through the method of understanding and persuasion without any immediate imposition. The goal, however, should be to come to a complete understanding of all aspects of curriculum development and implementation. A common format would facilitate the exchange of materials and experiences among the UNEVOC member countries and would have implications for reducing costs and exchanging personnel and experiences.

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2. Parameters for Adaptation

It is important to keep in mind the various parameters or elements of the given curriculum which require particular attention from the point of view of adaptation. Some of these are as follows.

Competencies

The given curriculum which is to be adapted would have a listing of general competencies as well as task analysis in a particular format. Each one would have to be discussed and a consensus arrived at on its inclusion, exclusion or amendment. This would lead to a relisting of various competencies as relevant to the country adapting the curriculum.

Group Size

The size of a group receiving instruction or undergoing an educational experience would be highly variable. For instance, in a self-learning modality the group size is one, while in a formal school situation it could be as large as forty or more. The curriculum being adapted may have specified an intended group size and its development might have been linked to the given group size. When the size is different in a situation for which the curriculum is being adapted, it may require corresponding amendment in the delivery mode and instructional practices.

Delivery Modality

A given curriculum may have been formulated for a face-to-face contact situation but may have to be transacted through flexible delivery/open learning modality or vice-versa. This will have to be given consideration whilst adapting the curriculum.

Infrastructure

The infrastructure available for instruction is another highly variable parameter. In some countries while all facilities might be created in an institution for complete transaction of the curriculum, in another country an industrial collaboration or dual system may be in practice. There may be variation in the makes and models of equipment, class/laboratory organisation and such other features. The adaptation process would have to closely examine these elements and modify other parameters to suit the infrastructure facilities and instructional practices.

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Management structure

Different countries have different management structures for Technical and Vocational Education. It is partly due to the fact that the country could have a federal/unitary structure, providing different elements of TVE management, such as curriculum development and other technical support system assessment and evaluation. Administration and financing could be located in different elements of the management system. These variations may also be due to the fact that different countries have different instructional practices such as school based or industry based instruction. All of these are important matters which have to be kept in mind whilst adapting the curriculum.

The competencies would also indicate the standards to be attained in different vocational programmes. These standards would vary from country to country depending on the requirements of the work place.

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3. Methodology

The adaptation of curriculum should be coordinated by the unit responsible for curriculum development in a particular country. The curriculum adaptation would have to follow a definite methodology and a few suggestions are offered here. The country adapting the curriculum may constitute a working group of experts which may include representatives from industries, and trade unions and teachers, who may meet periodically to complete the assignments. It could also be done through a workshop which involves a larger number of personnel after which a small group works to finalise the amendments. An alternative modality could be to assign the task to an eminent expert or consultant appointed specifically for this purpose.

As a word of caution, it may be stated that the process of adaptation should be as objective as possible in which the personal inclination, biases or prejudices are kept at bay and empirical data, collective thinking and consensus provide the foundation.

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SECTION D : CHALLENGES AND OPPORTUNITIES

1. Expertise in curriculum development

Relevant TVE curriculum is the real key to the process of providing knowledge and skills to learners. Expertise in curriculum development and its implementation is the most important prerequisite in providing a competetive edge to a country's development.

The TVE curriculum equips the vocational learner with productive skills. The process of curriculum development entails the establishment of expert groups representing:

- Curriculum developer
- Vocational and Technical teacher
- Academic/subject matter specialist
- Industry/Representative of industry bodies
- Education Planners/Representative from Board
- Employers
- and other users

Problems are faced in getting the employers/industries/representatives on expert groups as well as in finding experts in curriculum development. Sometimes the representatives from industry may not have the desired expertise.

2. Data bases

Possession of a relevant research base and scientific data for curriculum revision and updating cannot be over emphasized. There are very few examples in the countries of the region where curriculum development units function on the basis of, and with the support, of national data bases providing precise information on :

- Job market
- Needs analysis
- Industry restructuring
- Competencies required
- Schools offering TVE courses
- Societal demands as a result of economic transformation
- Teachers' qualifications and availability
- Feed back from users
- Existing curricula - national as well as comparative curricula from other countries

Most countries of the region do not have comprehensive data bases.

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Clearing House

This would facilitate exchange of materials between the UNEVOC centres.

Materials, finances and mechanisms for the purpose of having efficient communication linkages are the basic requirements. Expertise for managing the affairs, such as appropriateness of the demand for some information, better and economic mode of communication and quick response are essential requirements. Appropriately trained workers and resources are needed for this purpose. There is a need to have provision for collection of materials,but lack of availability of resources is a major problem.

Precise identification of job opportunities

Data is needed for determining job opportunities. Labour market surveys determine trends in economic growth, market demand, level and nature of industrialisation. Foreign investment and government policies are important factors to be considered. Identification of jobs require complete information. Absence of proper and recent data makes the exercise of job identification difficult. Foreign labour market demands also produce an impact, determining job opportunities.

Industry Cooperation

Industry cooperation which is an important aspect for success of vocational education does not come about in ample measure for a variety of reasons. One such reason is the absence of an organised forum for a dialogue between education and industry in many countries. In the absence of such a forum, the education sector, although it may obtain the needed information from the industry, often does not like to commit itself to compliance. In some instances there may not be enough effort by the education sector to involving industry in a meaningful dialogue. Part of the problem could also arise from the lack of understanding on the part of each sector about the stake that each sector holds in TVE as a venture. Industry pre-occupation with its production/service activities may be yet another reason.

Change Management

Societal Resistance

It is generally accepted that education is a conservative process and not readily amenable to quick changes. Teachers in general like to continue with old curricula and teaching practices. Managers of change often show inertia towards change. This is accentuated by poor awareness about change processes on the part of the society as a whole which also includes parents and learners.

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Cost of change over

Any change in the educational content or process has its own cost implications which may often be substantial to the extent that the risk of rejection becomes imminent. These cost parameters are training of teachers, development of instructional resource materials and provision of equipment/infrastructural facilities.

Other Resources

The change from old to new would also necessitate changes in background profiles of administrators, teacher educators and teachers amongst various categories of personnel. Often these changes assume a magnitude which cannot easily be handled in a given administrative set up since they may require more drastic steps than are possible within the administrative framework of a particular country.

Policy Support and Priority

For proper and relevant vocational education curriculum, it is desirable to have national government support in policy formulation. Governments need to appropriately prioritise vocational education to the level of commitment for sufficient material and money investment. This support needs to be placed within the national education system as well as within the national life; so that policy commitment helps to develop the vocational curriculum, links it with opportunities, transacts properly in schools ,and succeeds in establishing overall linkages with the employment market.

Industrialisation

The levels of industrialisation are different in different countries. In some countries, industrialisation also varies from one region to another. Applicability of curriculum may have a problem of mismatch due to low paced industrialisation, the need for updating the curriculum or non-availability of appropriate industrial facilities in certain regions. These factors have to be well managed whilst framing new curricula or further developing the existing curricula.

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